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Item No. 11.1.10

**Halifax Regional Council
May 5, 2009**

TO: Mayor Kelly and Members of Halifax Regional Council

A handwritten signature in cursive script, appearing to read "Dan English".

SUBMITTED BY:

Dan English, Chief Administrative Officer

A handwritten signature in cursive script, appearing to read "Wayne Anstey".

Wayne Anstey, Deputy Chief Administrative Officer - Operations

DATE: April 9, 2009

SUBJECT: Water Service Area Extensions

ORIGIN

Various requests for extensions to water service area boundaries in suburban areas of HRM.

RECOMMENDATION

It is recommended that Halifax Regional Council request staff to:

1. Re-initiate a request to the Provincial Government to amend the Halifax Charter to enable HRM to require hydrogeological assessments of groundwater resources as a condition of granting as-of-right subdivision approvals in unserved areas of HRM.
2. Investigate, in partnership with the NS Departments of Natural Resources and Environment, ground water resource capability in suburban areas of HRM to determine opportunities and constraints associated with on-site well water supply, for existing communities and potential future development areas.

BACKGROUND

Much of suburban and rural areas of HRM rely on on-site wells to meet the potable water needs of the dwelling or business. On-site water supply is under the jurisdiction of the provincial government, and it is the responsibility of the property owner to ensure that the water supply (well) is adequate in terms of water quality and yield (quantity). Information is provided by the property owner to the Province in this regard.

Hydrogeological Assessments

Of note is the fact that the Province does not require property owners (developers) to assess the overall capability of the ground water supply in advance of new subdivision activity taking place. Rather, well water supply is determined on a lot by lot basis, without regard for the cumulative effects of large subdivision development on the sustainability of the ground water aquifer. Further, HRM does not have the authority under the MGA (now Halifax Charter) to require ground water assessments as a condition of as-of-right subdivision approval.

By not having this authority, as-of-right subdivision development serviced with on-site wells and septic tanks is permitted to occur, and over time, as more and more wells are drilled, the source of ground water sometimes becomes depleted to the point that it can no longer supply the water demands of the residents. Often the only remedy is the installation of a central water system, at significant cost to property owners, the Municipality, or both.

Water Service Areas

While many areas of suburban and rural HRM have no issues with on-site water quality or quantity, there are several areas where these problems have occurred, and continue to arise. Areas such as Fall River, Waverley, Beaver Bank, Hammonds Plains are examples of locations where on-site water supply (primarily quantity rather than quality) are recurrent problems. As described above, in order to resolve the shortage of potable water, Council, through HalifaxWater, has approved the installation of central water systems to several of these areas, or portions thereof. These are expensive undertakings, and unless Council allocates funding for these projects or external funding is secured (senior levels of government), the costs of the new system is borne by the property owners receiving the service. This is achieved through the Local Improvement Charge By-law process.

The creation of new Water Service Areas, or extensions to Water Service Areas, is also governed by policies of the Regional Planning Strategy and certain Municipal Planning Strategies. Under the Regional Plan, Policy SU-13 presents criteria that Council must consider in establishing new Water Service Areas and Policy SU-14 describes criteria for the expansion of existing Water Service Areas (see Attachment A). Any proposed new Water Service Area or any extension to an existing Water Service Area must address these criteria and requires an amendment to the Regional Subdivision By-law through the public hearing process. The policy criteria are summarized as follows:

For creating a *new* Water Service Area:

- the area is in a designated growth centre area.
- an Open Space Design development is proposed within the centre

- in an existing community, a study has been prepared by a qualified person verifying a water quality or quantity problem exists that cannot be rectified by alternative means.

For the *expansion of an existing* Water Service Area:

- proximity to an existing trunk water system and the extension would lead to improvement of the distribution system
- a study has been prepared by a qualified person verifying a water quality or quantity problem exists that cannot be rectified by alternative means
- there are environmental concerns related to on-site sewage disposal systems

Responsibility

Requests for Water Service Area extensions can originate from a variety of sources; developers, individual requests from property owners, petitions from citizens of a neighbourhood or from Community Councils or Regional Council. Under the current process, the onus largely rests with property owners to determine the nature and extent of the water problem, and to address the criterion that “a study [has been] prepared by a qualified person verifying that there is a water quality or quantity problem that cannot reasonably be rectified by alternative means”. This can entail considerable expense on the part of residents, can become a complex process, and is a matter of considerable sensitivity to many property owners.

Rationalization and Prioritization of Requests

Under current procedures, where requests for water service extensions are brought forward, there is no clear method for determining the severity of the need, the geographic extent of the problem, the importance of the request in relation to other requests, whether or not infrastructure funding should be sought, and how such infrastructure projects are prioritized in relation to other HRM infrastructure projects.

Proposed Initiative

In order to better address the on-going requests for water service extensions, both for existing communities and potential new development areas, staff has commenced discussions with the provincial departments of Environment (DOE) and Natural Resources (DNR). Through a collaborative effort, we propose to conduct a relatively detailed analysis of the ground water resource capability within suburban areas of the municipality, the results of which will provide a good framework for decision-making in response to the issues and opportunities outlined above.

DISCUSSION

1. _____ Request for Enabling Legislation

Having adequate potable water (quality and quantity) is a critical staple for development within HRM. However, given our region’s geology and hydrology, the reliability of well water supply is not always guaranteed.

The Province of Nova Scotia is responsible for on-site services (wells and sewage disposal systems) and under current regulations, wells are approved on a lot-by-lot basis by way of pump tests conducted by the well driller. These tests are undertaken subsequent to the granting of subdivision approval by HRM. The Province has no requirement for developers to undertake hydrogeological assessments in advance of subdivision approval, so it has no way of determining the long term sustainable yield of the ground water for larger subdivisions having many lots, or the potential impact that the proposed new development may have on existing wells in adjacent subdivisions.

While HRM has the authority to require hydrogeological studies for Development Agreement applications, there is no such authority for as-of-right subdivision applications. It is important this legislation be acquired, as it will provide essential information as to how much development can be sustained based on available ground water resources of a given area.

HRM has requested this legislation in the past, without success. Policy SU-21 of the Regional Plan recommends this action (Attachment A). Given that HRM now has its own Charter, staff suggests that Council re-initiate its request to the Province to provide HRM with the authority to require hydrogeological assessments as a condition for granting as-of-right subdivision approvals for areas to be serviced with on-site wells.

2. Ground Water Analysis Initiative

It is recommended that staff from HRM and Halifax Water undertake a ground water resource study in partnership with provincial staff of DOE and DNR. The results of this study will provide Council, staff and the development industry with valuable information relating to the capacity of ground water resources as a determinant of land development within suburban and rural areas of the municipality.

The project will entail an analysis of watershed and sub-watersheds and will include areas of existing development serviced by private wells and undeveloped lands that have the potential for future residential subdivision development. Information to be assessed will include provincial *well log data* (well depths, yields, changes over time), *geology* (amount of overburden, type of rock), *water quality information* (chemistry, areas prone to contamination), *watershed and sub-watershed recharge characteristics* (hydrology, climate) and *density of development over time* (amount of development/number of dwellings within the sub-watershed).

The comprehensive analysis of this information will result in a clearer picture of where development opportunities and constraints exist, both in developed and undeveloped areas, relative to ground water sustainability. It will also provide a valuable decision making tool for Council regarding future growth management options and infrastructure planning for existing communities. The results should provide the following:

- The nature and extent of water quantity issues in existing communities, and where such problems can be anticipated in the future. This will help address the Policy criterion related to the requirement for “a study by a qualified person verifying a water quantity/quality problem exists”.

- A framework to prepare a systematic program for undertaking remedial projects based on severity of problem, need and financial considerations. This will provide a comprehensive analysis of all areas as opposed to the present approach of undertaking water service feasibility studies on a case-by-case basis.
- Rationalization and prioritizing of central water infrastructure projects
- A land use planning tool to help determine where growth should be encouraged or limited, based on the sustainability of ground water resources

Staff anticipates that this ground water resource study will take approximately one year to complete. The results will be presented to Council for discussion and direction. Also to note is that this analysis will provide key information for the scheduled five-year review of the Regional Plan (2011).

3. On-going Water Service Area Extension Requests

The proposed ground water resource study to be undertaken in partnership with the province will provide a comprehensive analysis of all areas within suburban HRM that rely on well water supply. It will enable Council to rationalize and prioritize those areas where central water services should be extended to existing communities and where water quantity issues are likely to be realized in the future.

As such, staff suggests that where possible, individual requests to investigate Water Service Area extensions should be held in abeyance until the findings of the larger study are known. Of course, in situations where a public health and safety issue arises, or Council otherwise determines that immediate action is warranted because of a water quality or quantity issue, staff will undertake the necessary investigations and planning document amendments as directed.

Specific Current Projects/Requests:

- (a) Water Service Extension Study for Gordon R. Snow Recreation Centre, Fall River.
- Underway: Staff will complete this analysis in the short term
- (b) Watershed/Service Studies under the Regional Plan (Fall River, Musquodoboit Harbour, Hubbards, Tantallon, Porters Lake/Lake Echo), as a lead-up to Community Visioning.
- Underway or about to commence: Staff will continue with these projects. Future watershed/service studies include North Preston/East Preston, Middle Musquodoboit Sheet Harbour
- (c) Monarch/Rivendale Subdivision, Beaver Bank.
Evidence of water quantity issue identified by community association.
Motions of Council to undertake analysis for potential water service area extension.
- Not initiated at present. Council may wish to direct staff to commence process in the short term.

- (d) Maplewood, Kingswood, Hammonds Plains.
Petition from a number of property owners indicating water quantity issue.
Motion of Council to undertake analysis for potential water service area extension.
- Not initiated at present. Council may wish to direct staff to commence process in the short term.

Past Requests/Inquiries

Numerous other requests or inquiries have been made over the past number of years, including the following:

- Fall River Village
- Spider Lake Subdivision, Waverley
- Dutch Settlement, via East Hants County water supply system
- Highland Park Subdivision, Hammonds Plains
- Maplewood Subdivision, Hammonds Plains
- Kingswood Subdivision, Hammonds Plains
- Swartzwald Subdivision, Fall River
- East Preston
- Westphal Area, Dartmouth East
- Mobile Home Park, Lucasville Road
- Sheet Harbour

BUDGET IMPLICATIONS

None.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

1. Council may choose not to undertake the ground water resource study with the Province and continue to address requests for water service area extensions on a case-by-case basis. This is not recommended for reasons described in this report.
2. Council may choose to direct staff to undertake the ground water resources study and also initiate the process to consider water service area extensions for Monarch/Rivendale and Hammonds Plains communities (Maplewood/Kingswood).

ATTACHMENTS

Attachment A: Policy Excerpts from Regional Plan - Water Service Areas

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Roger Wells, Supervisor, Regional/Community Planning, 490-4373

Report Approved by:

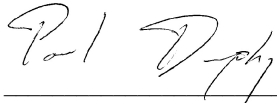


Austin French, Manager, Planning Services, 490-6717



Jamie Hannam, Acting General Manager, Halifax Water, 490-4804

Report Approved by:



Paul Dunphy, Director, Community Development

Attachment A
Excerpts from Regional Municipal Planning Strategy

7.3.1 Water Service Areas

Although this Plan encourages a more compact urban form in which development is serviced with wastewater and water distribution systems, this Plan recognizes that there are already in existence some developments serviced with a water distribution system and on-site sewage disposal systems.

Prior to amalgamation in 1996, the former Halifax County Municipality was allocated a portion of the Pockwock and Lake Major water supplies. HRM intends to recognize the existing Water Service Districts and refer to them as Water Service Areas under the Subdivision By-law. While the establishment of new Water Service Areas is important in supporting the settlement form established in this Plan, HRM should also endeavour to complete the installation of water services within the previously established Water Service Districts.

Water service boundaries were established to limit where water services would be permitted. The boundaries also served to respond to concerns that extending water distribution systems to rural areas would increase the pace of development thereby straining limited community services and possibly reducing the performance of the water distribution system to unsatisfactory levels. These concerns remain and HRM will therefore only allow for further extensions in accordance with the policies which follow.

SU-12 In recognition of the existing Water Service Districts under the Halifax County Municipality Subdivision By-law, HRM shall, through the Subdivision By-law, establish Water Service Areas within which development shall be permitted which is serviced by a public water distribution system but without a municipal wastewater system. Within these areas, a water distribution system shall be required to service all new subdivisions located adjacent to an existing water distribution system where a new or extended public street or highway is proposed. Further, no water distribution system shall be permitted to extend outside of a Water Service Area.

SU-13 HRM may consider establishing new Water Service Areas, subject to the financial ability of HRM to absorb any related costs, provided a wastewater management plan is also considered in accordance with Policy SU-20, if:

- (a) the area is within a Rural Commuter, Rural Resource or Agricultural centre and it has been determined through a secondary planning process that new growth is to be encouraged in this area;
- (b) an Open Space Design development is proposed within a Rural Commuter, Rural Resource or Agricultural centre pursuant to Policy S-16;
- (c) the lands are adjacent to an existing Water Service Area and an Open Space Design development is proposed within an Urban Reserve designation pursuant to Policies

- IM-18 and S-16; or
- (d) a study has been prepared by a qualified person verifying that there is a water quality or quantity problem in an existing community that cannot reasonably be rectified by an alternative means.

SU-13 HRM may consider establishing new Water Service Areas, subject to the financial ability of HRM to absorb any related costs, provided a wastewater management plan is also considered in accordance with Policy SU-20, if:

- (a) the area is within a Rural Commuter, Rural Resource or Agricultural centre and it has been determined through a secondary planning process that new growth is to be encouraged in this area;
- (b) an Open Space Design development is proposed within a Rural Commuter, Rural Resource or Agricultural centre pursuant to Policy S-16;
- (c) the lands are adjacent to an existing Water Service Area and an Open Space Design development is proposed within an Urban Reserve designation pursuant to Policies IM-18 and S-16; or
- (d) a study has been prepared by a qualified person verifying that there is a water quality or quantity problem in an existing community that cannot reasonably be rectified by an alternative means.

SU-14 HRM may consider expanding existing Water Service Areas to existing communities, subject to the financial ability of HRM to absorb any costs related to the expansion, if:

- (a) the lands are in proximity to a trunk water main planned or constructed by the Water Commission to improve the performance of the water distribution system;
- (b) a study has been prepared by a qualified person verifying that there is a water quality or quantity problem that cannot reasonably be rectified by an alternative means; or
- (c) there are environmental concerns related to the long-term integrity of on-site sewage disposal systems and a wastewater management plan is also considered in accordance with Policy SU-20.

7.3.3 Private Wells

The Municipality seeks to ensure that development in rural areas has an adequate and sustainable water supply. Until the mid 1980's, the Province required hydrogeological assessments to be conducted before recommending subdivision approval but this requirement was later relaxed to mandate that well drillers conduct a pump test on individual lots after subdivision approval had been granted. This test does not assess long-term sustainable yield of a larger subdivision with many lots or any potential impact on existing wells in adjacent subdivisions.

Hydrogeological studies can address these broader issues and whether the groundwater conforms with health standards, such as those established under the Canadian Drinking Water Guidelines. Currently there is no legislative authority for as-of-right subdivisions under the *Municipal Government Act* to allow municipalities to require a hydrogeological assessment as a condition to granting subdivision approval.

SU-21 HRM shall request that the Nova Scotia Provincial Government amend the *Municipal Government Act* to grant HRM the authority to require a hydrogeological assessment for lots serviced with well water as a condition for granting as-of-right subdivision approval. If such amendment is enacted, HRM shall consider amending the Subdivision By-law to require hydrogeological assessments as a condition of subdivision approval.